

<i>Observer</i> <i>Mr. Bryant.</i>			
<i>Date.</i>	<i>Position Angle.</i>	<i>Dist.</i>	
1902·542	180°·4	0"·11	Bright field.
·706	153·8	0·16	Observation not good.
·783	157·8	0·12	Bright field.

 β 705.

This star was discovered by Mr. Burnham with the 18½-inch Dearborn refractor; the magnitudes are 7·0 and 12·5. The observations:—

1878·53	158·0	1·5 ±	Burnham.
1885·64	Hermann Struve. Single.
1898·	Burnham. Single.
1902·72	74·0	0·72	Lewis. No companion could be seen in position given for 1878; but a minute companion was suspected in the position now given.

Note on the Double Star 31 Leonis. By S. W. Burnham.

The Anderson companion to 31 *Leonis* has not been measured until recently in the last twenty-five years, and as the bright star has a considerable proper motion there would be a very decided change in the position of the 13^m·5 attendant if it was only an optical pair. It was therefore placed on my working list for measurement. The following are all the observations of this pair:

1878·24	44°·2	7"·63	2 ⁿ β
1878·30	43·3	7·94	5 ⁿ H1
1903·19	41·9	7·64	3 ⁿ β

It is evident that there has been no sensible change, and that the faint star has the same proper motion as the other. This is given by Auwers as 0"·127 in the direction of 252°·6. If the companion was fixed in space the distance in this interval would have increased nearly two and one-half seconds, so there can be no doubt as to this being a physical system.

In making these measures I noticed that one of the DM

stars given as closely following 31 *Leonis* is now missing. The places from that catalogue for 1855 are :

	h	m	s		°	'
31 <i>Leonis</i>	10	0	10.3	+ 10	43.4	
(10°) 2117 (9.5)	10	3	17.2	10	37.3	
2118 (9.5)	10	3	25.2	10	38.3	
2119 (9.1)	10	3	34.3	10	43.3	

Neither of the three small stars is given in the A.G. Catalogue, but the last is found in the Toulouse Catalogue, and also in Bonn No. 4. Only two of these stars are to be found now. One is 2119, and the other is probably 2118, although the difference in declination does not agree with the present position of the stars. The relation of 2119 and the other star is :

$$1903.22 \quad P = 185^{\circ}.7 \quad D = 73''.70$$

One of these stars might have some proper motion, but it is more probable that the missing star and the apparent change in position are to be explained by errors in the DM.

The small nebula, *Dreyer* 3130, is in a low-power field with 31 *Leonis*. My direct measures from that star give :

$$1903.22 \quad P = 106^{\circ}.9 \quad D = 296''.6$$

This gives substantially the same place as that in Dreyer's General Catalogue.

The Yerkes Observatory:
April 30.

New Companion to Σ 1594. By S. W. Burnham.

The double star Σ 1594 was placed on the working list in order to make another set of measures for a determination of the proper motion shown in the prior observations. In observing the Σ companion with the 40-inch, a much nearer component was detected which has not been seen heretofore. This star was estimated 13^m.3, and the mean result in position is :

$$1903.21 \quad P = 318^{\circ}.2 \quad D = 1''.57 \quad 3^n$$